CLAIMS

What is claimed is:

1. A method for automatically maintaining focus and exposure settings in a digital imaging device, comprising:

activating a continuous focus and exposure mode in the digital imaging device;

capturing and analyzing first frames having a first resolution until a scene change is detected; and

capturing second frames having a second resolution greater than the first resolution and adjusting the focus and exposure settings based on the second frames, when the scene change has been detected.

2. The method of claim 1, wherein the continuous focus and exposure mode is activated in response to an input signal.

3. The method of claim 2, wherein the input signal comprises a shutter button of the digital imaging device being depressed to an intermediate position.

4. The method of claim 2, wherein the input signal comprises selection by a user of a continuous focus and exposure mode option in the digital imaging device.

5. The method of claim 2, wherein the input signal comprises sensing that a user is holding the digital imaging device in a predetermined manner.

6. The method of claim 2, wherein the input signal comprises sensing that a shutter button of the digital imaging device is being lightly touched by a user.

7. The method of claim 1, wherein analyzing first frames comprises summing the absolute value of pixel differences between at least two first frames.

8. The method of claim 1, wherein analyzing first frames comprises comparing an aggregate luminance of at least two first frames.

9. The method of claim 1, wherein analyzing first frames comprises detecting a single moving element in an otherwise static scene.

10. The method of claim 1, wherein the second frames comprise one of full-resolution imaging-sensor readouts, VGA, SVGA, 720P, and single-field readouts from an imaging sensor having an odd number of fields.

11. The method of claim 1, further comprising:

performing coarse focus and exposure adjustments in the digital imaging device based on first frames after the scene change has been detected and prior to adjusting the focus and exposure settings based on the second frames.

12. The method of claim 1, wherein a live view mode of the digital imaging device is active in which first frames are captured and presented on a display of the digital imaging device both before and after the scene change has been detected, the first

frames being captured in addition to the second frames during adjustment of the focus and exposure settings based on the second frames.

13. The method of claim 1, wherein the digital imaging device is a digital camera.

14. A digital imaging device, comprising:

an imaging module to convert optical images to digital image frames, the imaging module being configurable to produce first digital image frames at a first resolution and second digital image frames at a second resolution, wherein the second resolution is greater than the first resolution;

scene analysis logic that analyzes first digital image frames to detect a scene change; and

focus and exposure adjustment logic configured to adjust focus and exposure settings of the digital imaging device based on second digital image frames, when the scene analysis logic has detected the scene change.

15. The digital imaging device of claim 14, wherein the digital imaging device has a continuous focus and exposure mode.

16. The digital imaging device of claim 15, further comprising:

an input control to activate the continuous focus and exposure mode.

17. The digital imaging device of claim 15, further comprising:

an attitude sensing subsystem to detect how the digital imaging device is being held by a user; and

activation logic configured to activate the continuous focus and exposure mode, when the attitude sensing subsystem detects that the digital imaging device is being held in a predetermined manner.

18. The digital imaging device of claim 17, wherein the attitude sensing subsystem comprises one of an accelerometer and a gyroscope.

19. The digital imaging device of claim 15, further comprising:

a shutter button;

a tactile sensing subsystem to detect whether the shutter button is being lightly touched by a user; and

activation logic configured to activate the continuous focus and exposure mode, when the tactile sensing subsystem detects that the shutter button is being lightly touched by the user.

20. The digital imaging device of claim 15, further comprising:

a shutter button having an intermediate position and an image capture position; and

activation logic configured to activate the continuous focus and exposure mode, when the shutter button is depressed to the intermediate position.

21. The digital imaging device of claim 14, wherein the scene analysis logic is configured to sum the absolute value of pixel differences between at least two first frames.

22. The digital imaging device of claim 14, wherein the scene analysis logic is configured to compare an aggregate luminance of at least two first frames.

23. The digital imaging device of claim 14, wherein the scene analysis logic is configured to detect a single moving element in an otherwise static scene.

24. The digital imaging device of claim 14, wherein the imaging module comprises an imaging sensor and the imaging module is configured to produce second frames comprising one of full-resolution imaging-sensor readouts, VGA, SVGA, and 720P.

25. The digital imaging device of claim 24, wherein the imaging sensor has an odd number of fields and the imaging module is configured to produce second frames comprising readouts from a single field of the imaging sensor.

26. The digital imaging device of claim 14, further comprising:

a display;

display control logic configured to present first frames on the display, when a live view mode of the digital imaging device is active; and

wherein the imaging module is configured to capture first frames in addition to second frames during adjustment of the focus and exposure settings by the focus and exposure adjustment logic, when the live view mode is active.

27. A digital imaging device, comprising:

means for converting optical images to digital image frames, the means for converting optical images to digital image frames being configurable to produce first digital image frames at a first resolution and second digital image frames at a second resolution, wherein the second resolution is greater than the first resolution;

means for analyzing first digital image frames to detect a scene change; and

means for adjusting focus and exposure settings of the digital imaging device based on second digital image frames, when the means for analyzing first digital image frames has detected the scene change.